

# METHOD AND SYSTEM FOR DETERMINING

## SERVICE RESOURCES ALLOCATION

Inventors: Thomas L. Hill, et al

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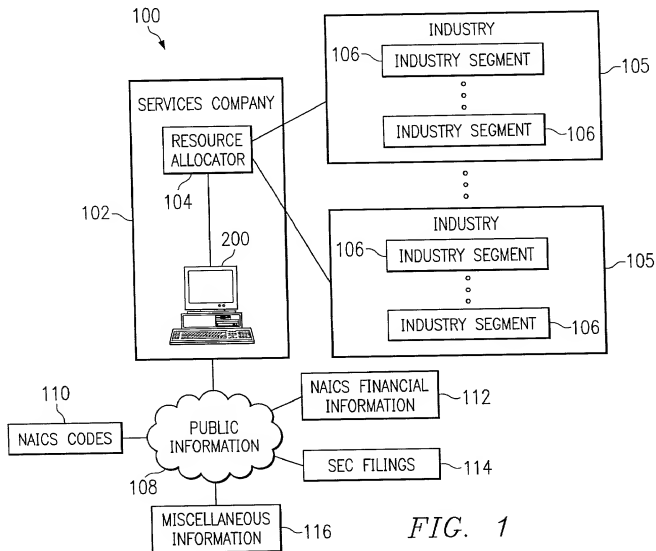


FIG. 1

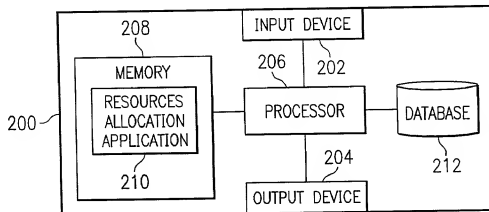


FIG. 2

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FIG. 3A

300

| 105<br>UTILITIES<br>INDUSTRY     | 108              |                        |                              |                              |                                |                                 |
|----------------------------------|------------------|------------------------|------------------------------|------------------------------|--------------------------------|---------------------------------|
|                                  | 306<br>NET SALES | 308<br>GROSS<br>PROFIT | 310<br>NUMBER<br>OF<br>FIRMS | 312<br>NAICS<br>CODE<br>LIST | 314<br>INPUT<br>NAICS<br>CODES | 316<br>OUTPUT<br>NAICS<br>CODES |
| WATER                            | 5,446,264        | 1,879,530              | 423                          |                              |                                |                                 |
| ELECTRICITY                      | 168,876,001      | 23,746,583             | 930                          |                              |                                |                                 |
| OIL AND<br>NATURAL GAS           | 399,116,052      | 140,609,132            | 1,347                        |                              |                                |                                 |
| CHEMICALS                        | 178,685,556      | 66,999,551             | 1,306                        | 331311                       | 212299                         |                                 |
|                                  |                  |                        |                              |                              |                                |                                 |
| MINING                           | 84,788,688       | 20,439,000             | 265                          | 212299                       |                                | 331311                          |
|                                  |                  |                        |                              |                              |                                |                                 |
| 105 FINANCIAL AND TRANSPORTATION |                  |                        |                              |                              |                                |                                 |
| FINANCIAL<br>INSTITUTIONS        | 65,835,345       | 6,873,171              | 3,339                        |                              |                                |                                 |
| REAL ESTATE                      | 93,709,550       | 42,395,013             | 1,050                        |                              |                                |                                 |
| RAILROAD                         | 11,948,493       | 4,809,698              | 108                          |                              |                                |                                 |
| CAR                              | 6,729,109        | 2,902,039              | 319                          |                              |                                |                                 |
| BUS                              | 9,331,736        | 3,768,495              | 208                          |                              |                                |                                 |
| TRUCK                            | 9,869,247        | 3,627,683              | 4,347                        |                              |                                |                                 |
| WATER                            | 130,241,231      | 47,646,424             | 139                          |                              |                                |                                 |
| AIR                              | 38,640,404       | 13,351,572             | 373                          |                              |                                |                                 |

TO FIG. 3B

TO FIG. 3F

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FIG. 3B

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302 ~ GENERIC  
VALUE STREAM

OPERATIONAL  
VARIABLES

320

318

FROM FIG. 3A

TO FIG. 3C

| MARKET<br>IDENTIFIED | PRODUCT<br>DESIGNED/<br>ENGINEERED                                                              | PRODUCT<br>MANUFACTURED    | PRODUCT<br>STORED,<br>DISTRIBUTED | CUSTOMER<br>AWARE<br>OF NEED |
|----------------------|-------------------------------------------------------------------------------------------------|----------------------------|-----------------------------------|------------------------------|
|                      |                                                                                                 |                            | PORTABLE<br>SECURE                |                              |
|                      |                                                                                                 |                            |                                   |                              |
|                      | 324                      326<br>↓                      ↓<br>GENERATION<br>(\$3,630,842) (66,7%) |                            |                                   |                              |
|                      | EXPLORATION                                                                                     | PRODUCTION                 | DISTRIBUTION                      |                              |
|                      | EXPLORATION                                                                                     | PRODUCTION                 |                                   |                              |
|                      |                                                                                                 | REFINING<br>CHEMICAL PLANT |                                   |                              |
|                      |                                                                                                 | EXTRACTION<br>SMELTING     |                                   |                              |
|                      |                                                                                                 | MANUFACTURING              |                                   |                              |

TO FIG. 3C

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FIG. 3C

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FIG. 3D

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|              |     |                                 |                                                            |                                                              |                                   |
|--------------|-----|---------------------------------|------------------------------------------------------------|--------------------------------------------------------------|-----------------------------------|
| FROM FIG. 3C | 320 | PRODUCT<br>INSTALLED            | CUSTOMER<br>PAYS FOR<br>PRODUCT                            | CUSTOMER<br>USES<br>PRODUCT                                  | CUSTOMER<br>NEEDS<br>PRODUCT HELP |
|              |     | EASY<br>NOT TIME<br>CONSUMING   | INVOICE<br>EASY TO<br>UNDERSTAND<br>TRANSACTION<br>PAYMENT | UNDERSTAND<br>VALUE<br>MEASURE<br>CUSTOMER<br>VALUE RECEIVED | QUICK<br>RESPONSE<br>FOLLOW-UP    |
|              | 324 | CUSTOMER                        |                                                            |                                                              |                                   |
|              |     | CUSTOMER<br>(\$815,422) (15.0%) |                                                            |                                                              |                                   |
|              |     | CUSTOMER                        |                                                            |                                                              |                                   |
|              |     |                                 |                                                            |                                                              |                                   |
|              |     | CUSTOMER                        |                                                            |                                                              |                                   |
|              |     | CUSTOMER                        |                                                            |                                                              |                                   |
| FROM FIG. 3E | 326 |                                 |                                                            |                                                              |                                   |
|              |     |                                 |                                                            |                                                              |                                   |
|              |     |                                 |                                                            |                                                              |                                   |
|              |     |                                 |                                                            |                                                              |                                   |
|              |     |                                 |                                                            |                                                              |                                   |
|              |     |                                 |                                                            |                                                              |                                   |
|              |     |                                 |                                                            |                                                              |                                   |
|              |     |                                 |                                                            |                                                              |                                   |
|              |     |                                 |                                                            |                                                              |                                   |
|              |     |                                 |                                                            |                                                              |                                   |

TO FIG. 3I

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FIG. 3E

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FROM FIG. 3D

| PRODUCT IS<br>RETURNED OR<br>EXCHANGED | PRODUCT<br>REPAIRED                  | CUSTOMER NO<br>LONGER NEEDS<br>PRODUCT            | PRODUCT<br>USAGE | 322                                                                   |
|----------------------------------------|--------------------------------------|---------------------------------------------------|------------------|-----------------------------------------------------------------------|
| PROBLEM<br>RESOLUTION<br>CERTIFICATION | REPAIR<br>QUALITY<br>REPAIR<br>SPEED | NEXT PRODUCT<br>FOLLOW-UP<br>ASSIST<br>CONVERSION |                  | COMPANIES IN<br>THE INDUSTRY                                          |
|                                        |                                      |                                                   |                  | AMERICAN WATER WORKS CO. INC.,<br>UNITED WATER RESOURCES INC...       |
|                                        |                                      |                                                   |                  | TXU, TVA, PEPCO, SOUTHERN<br>COMPANY, EDISON INTERNATIONAL...         |
|                                        |                                      |                                                   |                  | SHELL CO., EXXON CO.,<br>TEXACO CO., ARCO...                          |
|                                        |                                      |                                                   |                  | EASTMAN, DOW CHEMICAL, AVON,<br>TWINLAB CORP., PFIZER INC., ...       |
|                                        |                                      |                                                   |                  |                                                                       |
|                                        |                                      |                                                   |                  | THE DeBeer's CO., VULCAN MATERIALS<br>CO., CYPRUS AMAX MINERALS CO... |
|                                        |                                      |                                                   |                  |                                                                       |

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|--|--|--|--|-------------------------------------------------------------|
|  |  |  |  | MERRILL LYNCH, CHARLES SCHWAB,<br>CITYBANK, NASDAQ, NYSE... |
|  |  |  |  | CENTURY 21, RE/MAX...                                       |
|  |  |  |  | AMTRAK, METROLINER,<br>UNION PACIFIC...                     |
|  |  |  |  | GM, FORD, CHRYSLER,<br>TOYOTA, HONDA...                     |
|  |  |  |  | GREYHOUND, COACH USA,<br>SUPERSHUTTLE ...                   |
|  |  |  |  | UNITED PARCEL<br>SERVICE, ADVANTAGE...                      |
|  |  |  |  | CARNIVAL, PRINCESS,<br>ROYAL CARIBBEAN                      |
|  |  |  |  | UNITED, DELTA, AMERICAN,<br>CONTINENTAL, US AIRWAYS...      |

TO FIG. 3J

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FIG. 3F

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FROM FIG. 3A

|     |                                     |             |            |        |  |  |  |
|-----|-------------------------------------|-------------|------------|--------|--|--|--|
| 105 | TRANSPORTATION SERVICES             |             |            |        |  |  |  |
|     |                                     | 23,519,205  | 8,527,046  | 1,431  |  |  |  |
| 106 | HEALTHCARE                          |             |            |        |  |  |  |
|     | OFFICES AND CLINICS                 | 8,210,886   | 4,188,961  | 845    |  |  |  |
|     | CARE FACILITIES/ SERVICES           | 31,783,481  | 16,073,733 | 1,875  |  |  |  |
|     | HOSPITALS                           | 60,922,583  | 36,628,765 | 1,373  |  |  |  |
|     | LABORATORIES                        | 4,647,680   | 2,482,236  | 183    |  |  |  |
|     | HEALTHCARE SERVICES                 | 14,650,727  | 6,927,555  | 1,874  |  |  |  |
| 106 | COMMUNICATION, ENTERTAINMENT, MEDIA |             |            |        |  |  |  |
|     | PRINTED PRESS                       | 8,543,479   | 4,338,712  | 779    |  |  |  |
|     | TELEPHONE                           | 7,898,177   | 3,592,537  | 1,126  |  |  |  |
|     | RADIO, TELEVISION, AND CABLE        | 19,057,640  | 9,829,011  | 390    |  |  |  |
|     | MOVIE AND THEATER PRODUCTION        | 48,152,544  | 8,033,144  | 783    |  |  |  |
|     | FITNESS/SPORTS                      | 26,530,056  | 13,984,357 | 1,279  |  |  |  |
| 105 | PRODUCTS AND RETAIL                 |             |            |        |  |  |  |
|     | AUTOMOTIVE                          | 247,029,205 | 4,884,917  | 4,379  |  |  |  |
|     | INDUSTRIAL MANUFACTURING            | 14,493,862  | 80,459,316 | 4,803  |  |  |  |
|     | HIGH TECH                           | 79,020,522  | 29,649,797 | 5,273  |  |  |  |
|     | AEROSPACE AND DEFENSE               | 18,560,972  | 5,505,786  | 264    |  |  |  |
| 106 | RETAIL                              | 331,815,270 | 79,035,706 | 52,666 |  |  |  |

TO FIG. 3G

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FIG. 3H

FROM FIG. 3C

|              |  |  |  |  |
|--------------|--|--|--|--|
| FROM FIG. 3G |  |  |  |  |
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| TO FIG. 3I   |  |  |  |  |
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FIG. 3J

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FROM FIG. 3E

FROM FIG. 3I

|  |  |  |  |                                                                     |
|--|--|--|--|---------------------------------------------------------------------|
|  |  |  |  | AAA, AIR EXPRESS,<br>GEOLOGISTICS, GATX CORP...                     |
|  |  |  |  | PHYCOR INC., OMEGA<br>HEALTH SYSTEM INC...                          |
|  |  |  |  | MANOR CARE INC.,<br>MONARCH DENTAL CORP...                          |
|  |  |  |  | COLUMBIA / HCA HEALTHCARE<br>CO., MERCY HEALTH SERVICES...          |
|  |  |  |  | QUEST DIAGNOSTICS, UNILAB<br>CORP., US DIAGNOSTICS...               |
|  |  |  |  | KINDER CARE LEARNING CENTERS<br>INC., BRIGHT HORIZONS...            |
|  |  |  |  | THE WASHINGTON POST,<br>TIME, RANDOM HOUSE...                       |
|  |  |  |  | AT&T, MCI,<br>SPRINT, GTE...                                        |
|  |  |  |  | TIME-WARNER, NBC, ABC, FOX,<br>CBS, CNN, HBO, SHOWTIME              |
|  |  |  |  | PARAMOUNT PICTURES,<br>UNIVERSAL STUDIOS,<br>METRO-GOLDWYN MAYER... |
|  |  |  |  | BALLY'S TOTAL FITNESS, GOLD'S<br>GYM, LARRY NORTH TOTAL FITNESS...  |
|  |  |  |  | SIX FLAGS, WALT DISNEY CO.,<br>SMITHSONIAN INSTITUTE...             |
|  |  |  |  | SPARTAN MOTORS,<br>GM, AUTOZONE...                                  |
|  |  |  |  | US TIMBERLANDS CO.,<br>LIBERTY HOMES INC. ...                       |
|  |  |  |  | EDS, IBM, MICROSOFT,<br>MOTOROLA, ORACLE...                         |
|  |  |  |  | BOEING, LOCKHEED-MARTIN,<br>ROLLS-ROYCE...                          |
|  |  |  |  | SEARS, WALMART,<br>KROGER, BRINKER<br>INTERNATIONAL INC. ...        |

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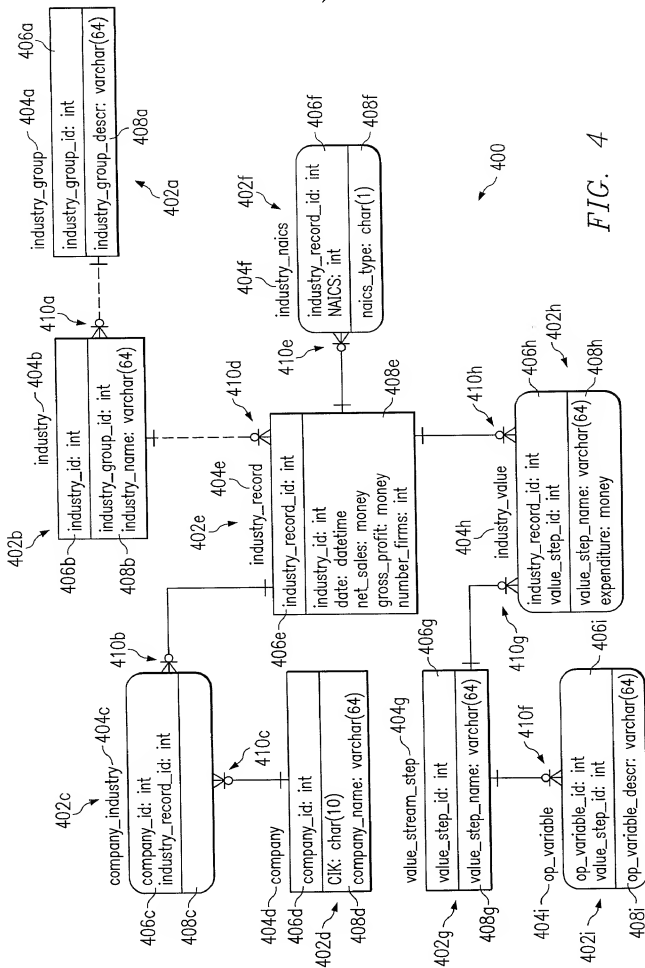


FIG. 4

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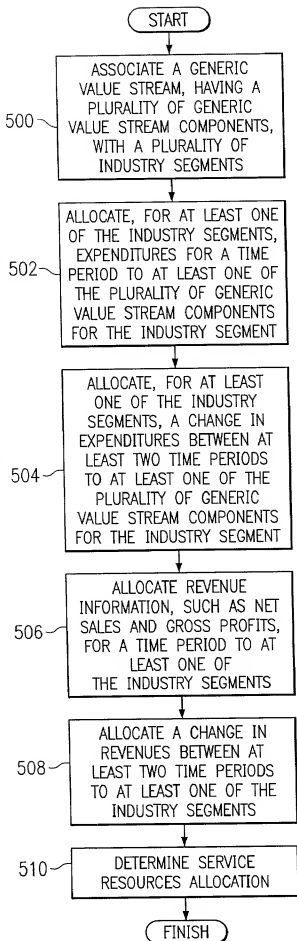


FIG. 5A

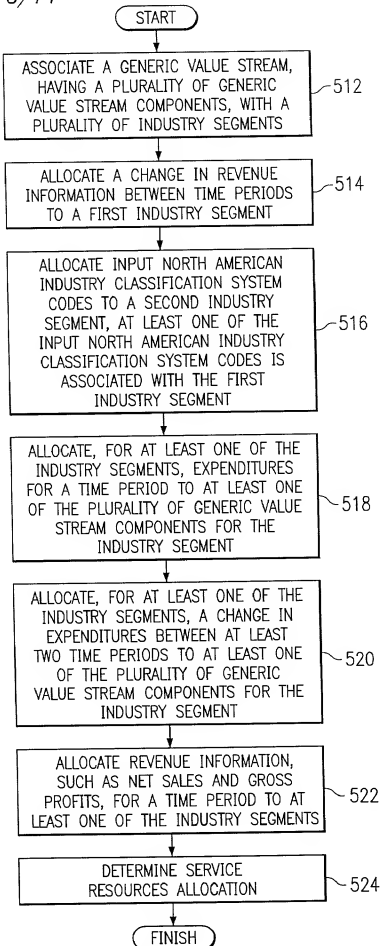


FIG. 5B

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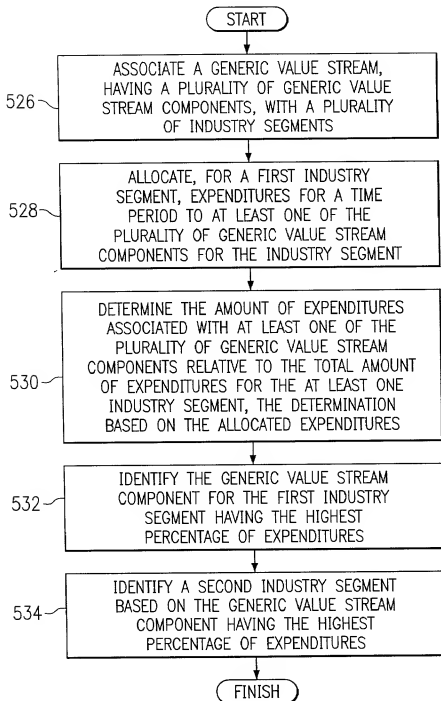


FIG. 5C